Fish Culture

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The Production of Walleye in Plastic-Lined Ponds

In 2010, six 0.1-acre plastic-lined ponds were used to evaluate a vaccine (Aquavac-Col; Intervet) for *Flavobacter columnare* (Columnaris Disease) on walleye. Fry were given the vaccine or a sham (water) treatment at three days post hatch before stocking in ponds at Rathbun Fish Culture Research Facility. Ponds were harvested and quantified after a 37-day culture period, then stocked in habituation tanks for continued evaluation of vaccine efficacy. At pond harvest, there was no difference in survival rate of vaccinated fry (81%) compared to survival of unvaccinated fry (84%).

A second experiment was conducted in 1.0-acre plastic-lined ponds at Rathbun Fish Hatchery and compared two pond-filling regimes and two organic fertilizers. Four ponds were full for eight days prior to stocking (Control) and fertilized with alfalfa pellets at a rate of 100 lbs/wk. Pond filling was delayed (DF) three days and ponds were full only five days prior to stocking, then fertilized with alfalfa pellets at the same rate as the control. Another three ponds were full for eight days before stocking and fertilized with soybean meal at a rate of 80 lbs/wk. Regardless of treatment, ponds were filled deliberately over a four-day period. Ponds were stocked at a rate of 50,000 walleye fry/acre, and harvested after 34 to 37 days of culture. At harvest, walleye fingerlings were 1.8 inches in length regardless of fertilizer or filling regime. Survival rates were similar among pond filling regimes with 92.9% and 91.0% for DF and control ponds, respectively. Also, soybean meal fertilizer did not influence survival rate (90.8%) compared with alfalfa meal fertilizer (91.0%). Body condition of fingerlings at harvest was unaffected by fertilizer or pond filling regimes.